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ABSTRACT

School administrators need in-depth information to mount effective facility planning efforts, to develop and maintain satisfactory buildings for modern educational programs, to supervise the work of other professionals and technicians in designing and constructing facilities, and to evaluate such efforts. This document is an outline or syllabus for a college course covering these topics. It lists the objectives for the course, including that the student will be able to describe and evaluate the process used in various types of facility planning, and outlines the class requirements. The 19 suggested course topics include an introduction to the planning process, organizing staff for a building program, long-range planning, surveying existing facilities, facility evaluation instruments, developing capital improvement, involving the community, architectural selection, site selection, educational facility specifications, facility design, bidding, evaluation, plant maintenance, energy utilization, and other topics. (Contains 83 references.) (RJM)

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PLANNING EDUCATIONAL FACILITIES

EDAD 6034

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1. EDUCATIONAL OBJECTIVES

Basic information needed by administrators to mount an effective planning effort within an organization; to plan, develop and maintain satisfactory buildings to house modern educational programs; to supervise the work of other professionals and technicians in designing and constructing facilities; and to evaluate such efforts. This course meets Virginia requirements for placement on the Eligible List of Division Superintendents.

At the completion of this course, the student will be able to:

- a. describe and evaluate the process used in various types of planning
- b. organize a staff for a planning effort and describe the various roles persons play in the planning process
- c. describe a long-range planning document and how it is developed
- d. describe the methods of financing capital construction
- e. identify and use basic methods of projecting student populations
- f. describe the legal basis and constraints related to planning facilities, acquiring sites, constructing and bidding projects
- g. prepare a building evaluation instrument and conduct an evaluation of existing facilities
- h. describe and utilize various methods of programming facilities
- i. evaluate energy conservation methods and organize audits of facilities
- j. read and evaluate architectural plans and designs in reference to educational programs and to barrier-free environment
- k. describe the operation and maintenance of facilities.

2. CLASS REQUIREMENTS

- a. Read the Assigned Text
- b. Participation in Class Discussion
- c. Participation in Scheduled Simulations and Out-of-Class Activities - Some simulations of various processes in planning will be scheduled from time to time.

The simulation activities are expected of each student. There will be papers assigned as out of class work.

- d. Examinations - Two examinations will be administered - a mid-term and a final. Both examinations will be 80% objective and 20% subjective questions.

The material covered in both examinations will be 80% from class presentation and 20% from outside class readings.

- c. Grading Basis

Attendance	10%
Simulations	10%
Written Responses	20%
Midterm Examination	30%
Final Examination	30%

3. SUGGESTED COURSE TOPICS

- a. INTRODUCTION TO PLANNING PROCESS

- Introductions, establishment of course requirements, objectives, grading policy, and housekeeping details.
 - Overview of Planning
 - Definition of Planning
 - Planning Resources

- b. ORGANIZING THE STAFF FOR A BUILDING PROGRAM

- What are the roles and responsibilities in the planning process for Capital Projects:
 - of the Administration
 - of the Community Advisory Committee (CAC)
 - of the School Board
- What school board policies are needed to legitimize the school planning effort?

- c. LONG-RANGE PLANNING: IDENTIFICATION OF PROGRAM NEEDS

- What are Educational Program guidelines?
 - What is master planning for facilities?
 - How can program guidelines make a difference in the design of a new facility?
 - What instruments are used to identify program needs?

- How does facility planning interface with the long-range planning efforts of the local school system required by the state?
- d. LONG-RANGE PLANNING: PROJECTION OF POPULATIONS
- How are clientele projections made?
 - What are the various methods of projecting populations?
 - What factors must be considered in making projections?
 - How is a census organized?
- e. SURVEY OF EXISTING FACILITIES
- Why are existing facilities included in developing a long-range facilities plan?
 - Who conducts the building evaluation and who participates?
- f. FACILITY EVALUATION INSTRUMENTS
- What types of data are needed for a long-range facilities plan?
 - What type of instruments are utilized?
- g. DEVELOPMENT OF THE CAPITAL IMPROVEMENT PROGRAM (CIP)
- What organizational office or department is responsible for development of the CIP?
 - How are projects included in the CIP?
 - How is the CIP approved and by what body?
 - How are individual projects costed?
 - What is the difference between a Capital Improvement Program and a Capital Budget?
 - Where do school divisions get funds to construct facilities?
 - Does the Commonwealth or Federal Government contribute funds for the completion of capital projects to local school divisions?
- h. INVOLVING THE COMMUNITY
- Why should lay and professional people work together in planning a new facility?
 - Who is responsible for the formulation of a Community Advisory Committee (CAC)?
 - What are some guidelines for forming a Community Advisory Committee?
 - membership
 - responsibility
 - organization
 - support

- relationship to other groups

i. ARCHITECTURAL SELECTION & SUPERVISION

- How are architects chosen and who is involved in the process?
- What criteria is used in selecting the architect?
- When should the architect be employed?
- What is the relationship between the architect, after being hired, and the School Board, administration, staff and community?

j. SITE SELECTION

- What legal requirements must be met in site acquisition?
- How is criteria developed for site selection?
- Who plays a part in the development of criteria?
- What are the considerations in selecting a site for a new facility?
- How are community people involved in selecting specific sites for new facilities?
- Who holds title to a site once it is acquired?

k. PROGRAMMING EDUCATIONAL FACILITIES - WRITING EDUCATIONAL SPECIFICATIONS

- What are educational facility specifications?
- Who uses educational facility specifications?
- How much time is needed to develop educational facility specifications?
- Who is responsible for development of the document?
- What does the document contain?

l. FACILITY DESIGN

- What are the architectural milestones in the design process?
- What input does the CAC have in the design process?
- Who is involved in the design review process?
- Who is on the Design Team and the Design Review Team?
- When does the school board approve the design of a facility?
- What does the local administrator need to know about barrier-free design?
- How can the local administrator guarantee that the facility meets all barrier-free regulations?
- What is the American National Standards Institute (ANSI)?

m. BIDDING THE CONSTRUCTION PROJECT

- Who conducts the bidding process?
- Who develops bidding documents?

- What are the constraints a public institution must observe in bidding a construction project?
- How are contracts awarded?
- Under what circumstances may an institution not award a contract to the lowest responsible bidder?
- What provisions of the State Procurement Act apply to local educational institutions?

n. CONSTRUCTION PHASE

- Who provides supervision of the construction project for the school division?
- What does the Clerk-of-the-Works do and who hires him?
- What are change orders and how are they approved?
- When does the building become the property of the state or local educational system?
- What steps must be taken before the building is accepted?
- Where do the funds come from for furniture and equipment?

o. ORIENTATION TO THE NEW FACILITY

- How is the staff recruited for a new facility?
- What is the purpose of the orientation?
- Who conducts the staff orientation at the facility?
- Who is involved in the orientation?

p. EVALUATION - PRODUCT & PROCESS

- What is the purpose of evaluation in facility planning?
- What forms of evaluation are used to assess planning of new facilities?
- Who should conduct the evaluation and who should be involved?
- What is evaluated: product and process?

q. SCHOOL PLANT MAINTENANCE AND OPERATION PROCEDURES

- What are the components of an effective maintenance program?
- How should the maintenance and operations program be organized?
- To whom is the local custodian responsible?
- What part does the building administrator play in the maintenance and operations program?
- How is the maintenance and operations program financed and budgeted?

r. ENERGY UTILIZATION AND CONSERVATION

- How are energy audits conducted?

- What are some of the ways in which energy can be conserved in older buildings?
- How can the educational organization organize for efficient energy utilization?
- How does energy conservation fit into the over-all organizational programs?
- Are there funds available for energy conservation projects?

s. EVALUATION

BIBLIOGRAPHY

EDAD 6034 PLANNING EDUCATIONAL FACILITIES

Dr. Glen Earthman

- | | | |
|----------------|--|---|
| LB 3205 C3 | W. Caudill | Toward Better School Design |
| LB 3205 E32 | EFL | Schools Without Walls |
| LB 3205 G7 | Ron Gross | Educational Change & Architectural Consequences 1968 EFL |
| LB 3205 H39 | Harold Hawkins | Appraisal Guide for School Facilities 1977 |
| LB 3205 m67 | Reed Morrill | Public School Building Program 1969 |
| LB 3281 e57 | Basil Castaldi | Educational Facilities: Planning, Remodeling and Management |
| LB 3205 O3 | Oddie | School Buildings and Their Educational Use |
| LB 3205 O74 | Organization for
Economic
Cooperation &
Development | Development & Economy in Educational Building |
| LB 3205 O74 | Eric Pearson | School Building & Educational Change OECD-1975 |
| LB 3205 O74 | Jean Adler | Building Implications of the Multi-Option School OECD-1975 |
| LB 3205 O74 | OECD | Providing for Future Change: Adaptability & Flexibility in School Building 1976 |
| LB 3205 S68 | OECD | Building for School & Community: Policies & Strategies. Vol. 1 & 2 1978 |
| LB 3218 A1 N38 | Shirley Neill | School Energy Crisis: Problems & Solutions 1977-AASA |
| LB 3218 C2 E32 | EFL | SCSD: The Project & The Schools 1967 |
| LB 3218 C2 E35 | EFL | School Construction Systems Development Project 1967 |
| LB 3218 I3 m35 | A. Manji | Educational Facilities Planning in Chicago 1974 |

LB 3218 V8 A54	SDE-VA	School Planning Manual 1955
LB 3220 H35	Jacques Hallack	Planning the Location of Schools 1977 UNESCO
LB 3221 A6	AASA	Open Space Schools 1971
LB 3221 B57	John Bosce	History & Evaluation of SCSD 1967
LB 3221 C26	Basil Castaldi	Creative Planning of Educational Facilities 1969
LB 3221 C67	N. Englehardt	Complete Guide for Planning New Schools 1968
LB 3221 P58	S. Leggett	Planning Flexible Learning Spaces 1977
LB 3221 N23	Wm. McClurkin	School Building Planning 1964
LB 3205 S68	R. D. Srivastava	Innovation in Managements of Primary School Construction-A Case Study 1974 UNESCO
LB 3209 B46	Jack Birch & Kenneth Johnston	Designing Schools & Schooling for the Handicapped 1975
LB 3209 B57	Harold Boles	Step by Step to Better School Facilities 1965
LB 3209 B85	UNESCO	Building for School & Community Use: Five Case Studies 1977
LB 3209 J64	Marvin Johnson	The School Architect 1968
LB 3209 S45	Jan Sinnamon	Natural Disasters & Educational Building Design 1976 UNESCO
LB 3209 m6	Edgar Morphet	The Measurement & Interpretation of School Building Utilization 1927
LB 3209 S86	Strevell & Burke	Administration of the School Program
LB 3209 y67	Institute of Advanced Architectural Studies	A Right to be Children 1976
LB 3215 E57	University of Tennessee	Modernizing Educational Facilities 1973

LB 3218 A1 A75	AASA	To Re-Create a School Building: Surplus Space 1976
LB 3218 I13	Don Leu	Planning for the Future: Long-Range Educational & Facilities Plan for Chicago 1971
LB 3218 A1 L4	Don Leu	Planning Educational Facilities 1965
LB 3221 m6	James Morisseau	Design and Planning the New Schools 1972
LB 3223 A88	Assn of Physical Plant Admin.	Remodeling, Renovation, and Conversion 1975
LB 3222.5 E38	EFL	Surplus School Space: Options & Opportunities 1976
LB 3222.5 m43	J. Meier	Combined Occupancy Development 1971
LB 3235 B3	Joseph Baker	School Maintenance & Operation 1963
LB 3235 H44	Jerry Herman	Administrator's Guide to School Construction, Remodeling & Maintenance 1975
LB 3241 S84	National Science Foundation	Low Energy Utilization School 1974
LB 3243	Theodore Larson	The Effect of Windowless Classrooms on Elementary School Children
LB 3249 V56	USOE	Violent Schools-Safe Schools Vol. 1 1978
LB 3261 D38	Clark Davis	The Principal's Guide to Educational Facilities 1966
LB 3220 1972	Russell A. Holy	The Relationship of City Planning to School Plant Planning 1972
LB 292 I137	Ellis Hartford	The Little White Schoolhouse 1977
LB 3013 S85	Suzanne Stemnock	Summary of Research on Size of Schools and School Districts 1974
LB 2817 F57	William Firestone	Great Expectations for Small Schools: Limitations of Federal Projects
LB 3223.3 M35	Harvey Kaiser	Managing Facilities More Effectively 1980 - Jossey-Bass, Inc. Publishers

LB 3227.5 E38	EFL	Housing for New Types of Students 1977 EFL
LB 3241.2 N48	Sidney G. Tickton	New Approaches to Energy Conservation 1981 - Jossey-Bass Inc. Publishers
LB 3205 D43	Phillip J. Sleeman (Ed.)	Designing Learning Environments 1981 - Longman, Inc., N.Y.
LB CF P.4	Eric Pearson	Trends in School Design 1972 - Citation Press, N.J.
LB 3219 C7 A84	Barbara Atherton	Adopting Space for Resource-Based Learning - Council for Educational Technology, 1980
LB 3218 M25	Allen Abend and Michael Bednor	Facilities for Special Education Services - 1979 Maryland State Department of Education
LB 3215 L3	Jack Landes & Merle Sumption	Citizens Workbook for Evaluating School Buildings 1962
LB 2805 1436	Carrol McGuffey	"Facilities" Chapter 10. Herbert Walberg (ed.) Improving Educational Standards and Productivity, McCutchan Publishing Co. 1982
	Glen I. Earthman	"Facility Planning and Management," Chapter 23. Craig Wood (ed.), Principles of School Business Management, Reston, VA: ASBO, 1988
	Glen I. Earthman	"School Facilities Trends: Construction, Maintenance, Custodial Services and Energy Management" Chapter 13. School Business Management in the 21st Century. Reston, VA: ASBO 1990
	Donald M. Norris & Nick Poulton	A Guide for New Planners SCAPA - 1991

PERIODICALS

- Ahrends, A. C. "Design Criteria for Educational Facilities for Special Educational Services." Journal of Research & Development in Education, Summer 1979, 12.
- Bowen, Brian. "Are your building costs ok?" American School & University, March 1977, P. 38-41.
- Brohaw, John. "Barrier-free Design: A Report On The state Of The Art." CEFP Journal, February 1979, 17, (1).
- Brubaker, William. "Three Trends for the 80's & 90's." American School and University, 53 (Feb. 1981), p. 34-35.
- Caffarella, Edward, "Follow this Formula to Define Curtailed Enrollments." The Executive Educator, December, 1981.
- Crockarell, James. "Ten Current Trends In School Planning." Nations Schools, July 1974, 94.
- Day, C. William. "User Satisfaction of Elementary School Facilities." CEFP Journal, Sept./Oct. 1986.
- Earthman, Glen. "Problems and Alternatives in Housing Students: What a School Business Administrator Should Know." Journal of Education Finance. Vol. 10, No. 2, Fall, 1984.
- Eisenberg, Katherine. "Demographic Trends: The Implications and Costs for Public Education." CEFP Journal, 1979.
- Green, Edward & Winstead, Philip. "Systematic Institutional Planning." Educational Technology, July 1975.
- Horwitz, Robert. "Psychological Effects of the Open Classrooms." Review of Educational Research, Vol. 49, No. 1, Winter, 1979, pp. 71-86.
- Levin, Dan. "Asbestos in Schools: Walls & Halls of Trouble." The American School Board Journal, November 1978, Vol. 165, No. 11, pp. 29-33.
- Maintenance & Operations: Cost Study. American School & University, March 1981.
- Meredith, T. J. "Tenth Annual Maintenance & Operation Cost Study." American School and University, 53(7), 1981.
- Ringle, Phillip & Mark Sovickos. "Administrative Leadership: Planning and Time Perspective." Journal of Higher Education, 54, No. 6.

"Schools Face Mandated Asbestos Inspections." The American School Board Journal, September 1980, p. 12.

Tucker, John. "Planning for Curtailed Enrollments." American School and University, October, 1972.

Tutor, Derwood. "A Comparison of Two Methods of Cleaning School Classrooms." CEFP Journal, March/April 1985.

Weinstein, Carol. "The Physical Environment of the School: A Review of the Research." Review of Educational Research, Vol. 49, No. 4, Fall, 1979, pp. 577-610.

Woodward, Robert, & Bultman, Phelps. "Design for Accessibility." American School & University, March 1979, 51(6).